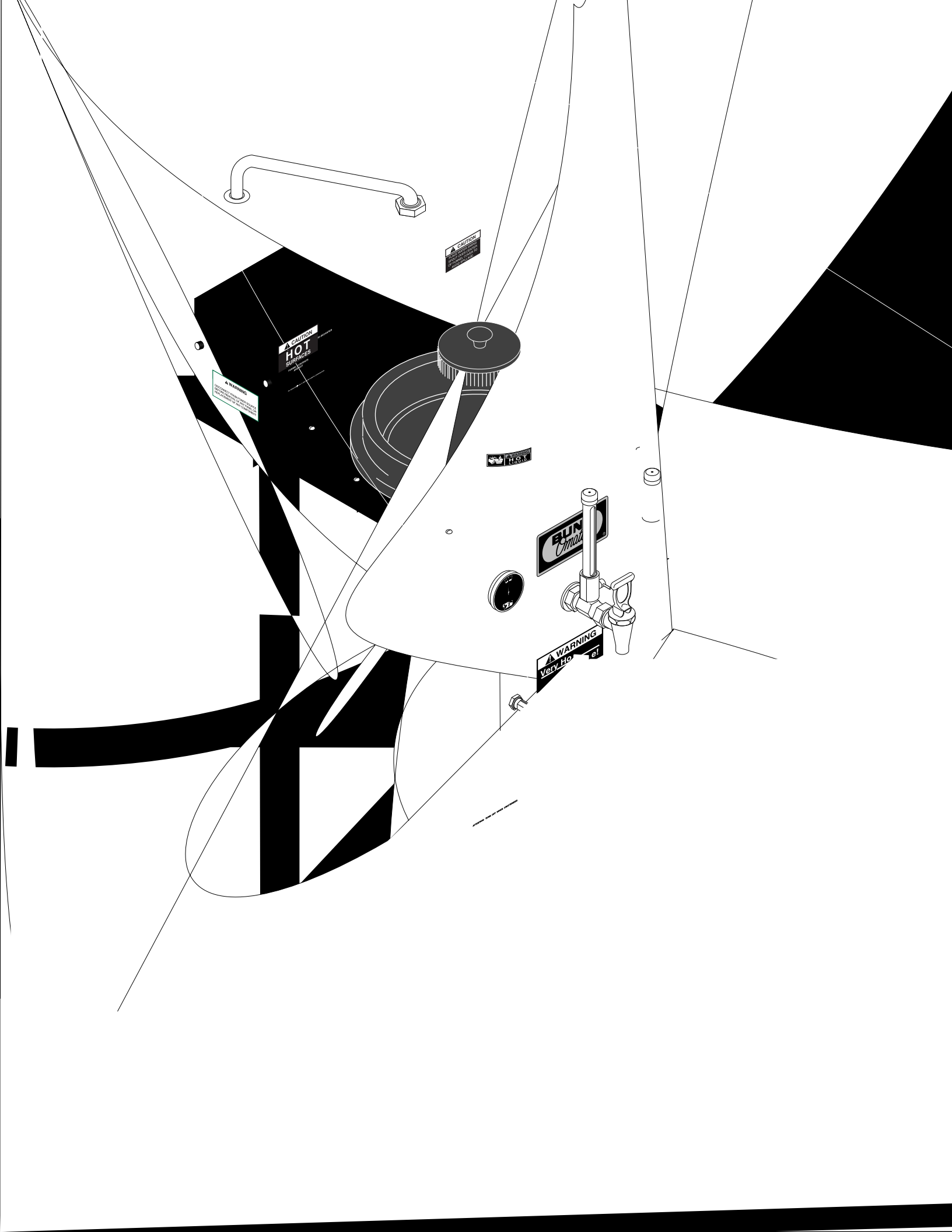
CAUTION
HOT
SURFACES
WARNING
CAUTION
WARNING
Very Ho
e!

INTRODUCTION

This brewer will brew a three gallon batch of coffee into the reservoir, which has its own dispensing faucet.The brewer also has a hot water faucet for allied beverage use. It is only for indoor use on a sturdy counter.

WARRANTY

Bunn-O-Matic Corp. ("Bunn") warrants the equipment manufactured by it to be commercially free from defects in material and workmanship existing at the time of manufacture and appearing within one year from the date of installation. In addition:

1.) Bunn warrants electronic circuit and/or control boards to be commercially free from defects in material and workmanship for two years from the date of installation.

2.) Bunn warrants the compressor on refrigeration equipment to be commercially free from defects in material and workmanship for two years from the date of installation.

3.) Bunn warrants that the grinding burrs on coffee grinding equipment will grind coffee to meet original factory screen sieve analysis for three years from date of installation or for 30,000 pounds of coffee, whichever comes first.

This warranty does not apply to any equipment, component or part that was not manufactured by Bunn or that, in Bunn's judgement, has been affected by misuse, neglect, alteration, improper installation or operation, improper maintenance or repair, damage or casualty.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The agents, dealers or employees of Bunn are not authorized to make modifications to this warranty or to make additional warranties that are binding on Bunn. Accordingly, statements by such individuals, whether oral or written, do not constitute warranties and should not be relied upon.

The Buyer shall give Bunn prompt notice of any claim to be made under this warranty by telephone at (217) 529-6601 or by writing to Post Office Box 3227, Springfield, Illinois, 62708-3227. If requested by Bunn, the Buyer shall ship the defective equipment prepaid to an authorized Bunn service location. If Bunn determines, in its sole discretion, that the equipment does not conform to the warranty, Bunn shall repair the equipment with no charge for parts during the warranty period and no charge for labor by a Bunn Authorized Service Representative during the warranty period. If Bunn determines that repair is not feasible, Bunn shall, at its sole option, replace the equipment or refund the purchase price for the equipment.

THE BUYER'S REMEDY AGAINST BUNN FOR THE BREACH OF ANY OBLIGATION ARISING OUT OF THE SALE OF THIS EQUIPMENT, WHETHER DERIVED FROM WARRANTY OR OTHERWISE, SHALL BE LIMITED, AS SPECIFIED HEREIN, TO REPAIR OR, AT BUNN'S SOLE OPTION, REPLACEMENT OR REFUND.

In no event shall Bunn be liable for any other damage or loss, including, but not limited to, lost profits, lost sales, loss of use of equipment, claims of Buyer's customers, cost of capital, cost of down time, cost of substitute equipment, facilities or services, or any other special, incidental or consequential damages.

USER NOTICES

Carefully read and follow all notices on the brewer and in this manual. They were written for y
All notices on the brewer are to be kept in good condition. Replace any unreadable or damag

⚠WARNING

- Fill water tank before turning -on thermostat or connecting appliance to power source.
- Use only on a properly protected circuit capable of the rated load.
- Electrically ground the chassis.
- Follow national/local electrical codes.
- Do not use near combustibles.

FAILURE TO COMPLY RISKS EQUIPMENT DAMAGE, FIRE, OR SHOCK HAZARD

READ THE ENTIRE OPERATING MANUAL BEFORE BUYING OR USING THIS PRODUCT

THIS APPLIANCE IS HEATED WHENEVER CONNECTED TO A POWER SOURCE

00831.0000F 3/98 © 1988 BUNN-O-MATIC CORPORATION

#00831.0000

This equipment is to
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and the Food Manual
of the Food a tion (FDA).

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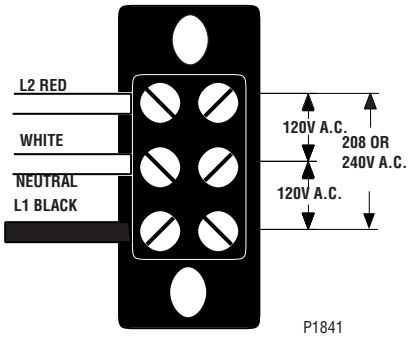
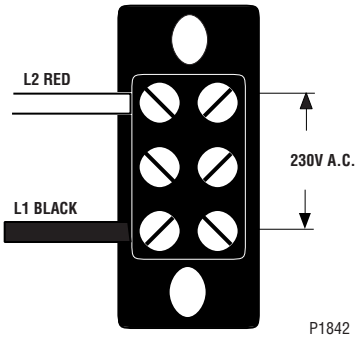
ELECTRICAL REQUIREMENTS

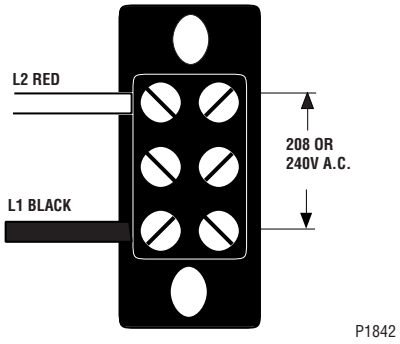
CAUTION - The brewer must be disconnected from the power source until specified in *Initial Set-Up.*



SRU Model requires 3-wire, grounded service rated 120/208 or 120/240 volts ac, 30 amp, single phase, 60 Hz. Proceed as follows:



SRUA-CE Models require 2-wire, grounded service rated 230 volts ac, 30 amp, single phase, 60 Hz. Proceed as follows:



SRUA Models require 2-wire, grounded service rated 208 or 240 volts ac, 30 amp, single phase, 60 Hz. Proceed as follows:

ELECTRICAL INSTALLATION INSTRUCTIONS

CAUTION – Improper electrical installation can damage the equipment and injure the installer. The chassis must be properly grounded. Do not assume a plumbing line will provide an adequate ground.

1. An electrician must provide electrical service as specified.
2. Using a voltmeter, check the voltage and color coding of each conductor at the electrical source.
3. Before electrically connecting the brewer, remove the side panel from the hood and rotate the control thermostat knob fully clockwise to the "OFF" position. Keep this knob in the "OFF" position until performing the "*Initial Setup*" Replace the side panel.
4. Remove the lower front panel and connect the proper electrical service to the terminal block.
5. Connect the brewer to the power source and verify the voltage at the terminal block before proceeding. Replace the lower front panel.
6. Disconnect the brewer from the power source. If plumbing has been hooked up, the brewer is ready for the *Initial Setup.*

NOTE: Schematic wiring diagrams are included in this manual.

PLUMBING REQUIREMENTS

These brewers must be connected to a cold water system with operating pressure between 20 and 90 psi (138 and 621 kPa) from a 1/2" or larger supply line. A shut-off valve should be installed in the line before the brewer. Install a regulator in the line when pressure is greater than 90 psi (621 kPa) to reduce it to 50 psi (345 kPa). The water inlet fitting is 3/8" flare.

NOTE - Bunn-O-Matic recommends 3/8" copper tubing for installations from the 1/2" water supply line. Bunn-O-Matic does not recommend the use of a saddle valve to install the brewer. The size and shape of the hole made in the supply line by this type of device may restrict water flow.

Plumbing Hook-up

1. Make certain the 3/8" female flare fitting on the short tube from the outlet of strainer (supplied) is securely attached to the male fitting at the bottom rear of the brewer.
2. Flush the water line and securely attach it to the 3/8" male flare fitting on the inlet of the strainer.
3. Turn on the water supply.
4. Inspect the connection for leaks.

This equipment must be installed to comply with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. (BOCA) and the Food Service Sanitation Manual of the Food and Drug Administration (FDA).

INITIAL SETUP

CAUTION - The brewer must be disconnected from the power source throughout the initial setup, except when specified in the instructions.

IMPORTANT: Brewer must be level and installed on a sturdy structure.

Electrician's and Plumber's Instructions are provided. These instructions should be carefully followed before proceeding with initial setup.

Be sure all electrical and plumbing connections are tight.

1. Disconnect the brewer from the power source.
2. Remove the left side panel from the hood and rotate the control thermostat knob fully counterclockwise to the "OFF" position. Replace the side panel.
3. Connect the brewer to the power source and place the lighted ON/OFF switch in the "ON" position. Water will flow into the tank and should automatically stop after approximately 15 minutes.

NOTE - The lighted ON/OFF switch must be in the "ON" position to automatically refill the tank. The switch should be in the "OFF" position whenever the brewer is left unattended.

4. Disconnect the brewer from the power source.
5. Remove the left side panel from the hood and rotate the control thermostat knob clockwise to the 5 o'clock position. Replace the side panel.
6. Connect the brewer to the power source and wait for the water in the tank to heat to the proper temperature. This will take approximately 1-2 hours, depending on the incoming water temperature. Some water will flow from the overflow tube during this time due to expansion. Draw off a 1/2 gallon of water every 15 minutes during the initial heat-up to lessen the chance of hot water flow from this expansion.
7. Determine the water temperature by checking the water with a thermometer at the hot water faucet (red handle). The best brewing temperature is between 195˚ (91˚C) and 200˚F (93˚C). The temperature may be increased by turning the thermostat knob clockwise and decreased by turning the knob counterclockwise.
8. When the desired temperature is attained, place the funnel support, funnel, and funnel cover on top of the coffee reservoir. Center the discharge of the water swing spout over the opening in the top of the funnel cover.
9. Place the lighted ON/OFF switch in the "ON" position and momentarily press and release the start switch. Water should flow from the swing spout into the funnel assembly.
10. Drain and measure the water from the reservoir when the flow of water from this initial cycle stops. If it is three gallons, proceed to step 12. If it is more or less than three gallons, proceed to step 11.
11. Adjust the brew timer as required. See *Adjusting Brew Volumes.* Repeat steps 9 & 10.
12. The brewer is now properly adjusted to brew coffee.

Bunn-O-Matic recommends a bead of silicon sealant be placed around the base on the countertop after the initial operation instructions are completed. B.O.M. #M2509.1001 sealant is available.

ADJUSTING BREW VOLUMES

CAUTION - Disconnect the power source from the brewer prior to the removal of any panel for the replacement or adjustment of any component.

NOTE: Prior to setting or modifying batch sizes, check that the brewer is connected to water supply, the tank is properly filled, and a funnel and server are in place.

1. **Modifying batch sizes.** To modify a batch volume, first check that the SET/LOCK switch is in the "SET" position on the circuit board.

   To increase a batch size. Press and hold the START or BREW switch until you see three breaks in the water stream from the swing arm. Release the switch (Failure to release the switch within two seconds after the third break in the stream causes the volume setting to be aborted and previous volume setting will remain in memory) and press it again one or more times. Each time the switch is pressed, two seconds are added to the brew time period. Allow the brew cycle to finish in order to verify that the desired volume has been achieved.

   To decrease a batch size. Press and release the START or BREW switch once for every two-second interval to be removed from the total brew time period; then immediately press and hold down the START or BREW switch until you see three breaks in the water stream from the swing arm. Release the switch. (Failure to release the switch within two seconds after the third break in the stream causes the volume setting to be aborted and previous volume setting will remain in memory). Allow the brew cycle to finish in order to verify that the desired volume has been achieved.
2. **Setting batch sizes.** To set a batch volume, first check that the SET/LOCK switch is in the "SET" position on the circuit board. Press and hold the START or BREW switch until you see three breaks in the water stream from the swing arm, and then release the switch. (Failure to release the switch within two seconds after the third break in the stream causes the volume setting to be aborted and previous volume setting will remain in memory). View the level of the liquid being dispensed. When the desired level is reached, turn the ON/OFF switch to "OFF" (lower). The brewer remembers this volume and will continue to brew batches of this size until the volume setting procedure is repeated.

NOTE: When brewing coffee, batch volumes will decrease due to absorption by the coffee grounds.

NOTE: HALF-BATCH AND FULL BATCH SETTINGS MUST EACH BE SET SEPARATELY

3. **Setting programming disable feature.** If it becomes necessary to prevent anyone from changing brew times once programmed, you can set the SET/LOCK switch to the "LOCK" position. This will prevent any programming until switch is once again placed in the "SET" position.

COFFEE BREWING

1. Brewing cycles may be started whenever water temperature is correct. This condition is indicated by the dial thermometer on front of the brewer. Whenever the pointer is in the green, brewer is ready for brewing.
2. Insert Bunn filter in funnel and add desired amount of coffee.
3. Level the bed of coffee and place funnel into the funnel support. Place funnel cover over the funnel and be sure the water swing spout is over the center of the funnel cover.
4. Turn "ON/OFF" switch to the "ON" position.(This switch must be in the "ON" position to start and complete a brewing cycle.)
5. Push and release "START" switch to start the brew cycle.
6. Water swing spout should not be moved as long as water is flowing into the funnel cover. When water stops flowing, it may then be moved for access to brewing funnel.
7. Remove funnel cover. Funnel should not be removed from urn until drip out of coffee has been completed.
8. To empty funnel, invert it over a waste container to dispose of filter and grounds. An additional flange is provided on the funnel to help make this step easier.

NOTE: Hot water may be drawn from the hot water faucet during a brew cycle. However, if a large amount of hot water is drawn off (over 1 gallon) operator should wait to do so between brewing cycles.

CLEANING

NOTE: Tank and tank components should be delimed regularly based on local water conditions. Excessive mineral build up on stainless steel surfaces can initiate corrosion reactions resulting in serious leaks,

1. Remove funnel, funnel lid and support. Under hot water, rinse away all coffee oils. Wipe with a clean damp cloth.
2. Drain coffee reservoir by opening coffee faucet. When empty, close faucet.
3. Cycle two or three inches of water into the coffee reservoir and scrub entire reservoir area. (Pour a bucket of cracked ice in coffee reservoir to obtain a more desirable cleaning water temperature.)
4. Drain coffee reservoir and rinse. Use clean damp cloth to wipe reservoir.
5. Install coffee funnel support, funnel and funnel lid.
6. Remove the sight gauge cap, insert sight gauge cleaning brush into the sight gauge glass tube and clean.
7. To clean coffee faucet, remove the faucet handle from the faucet and faucet clean out cap. Clean faucet with a faucet cleaning brush and wipe all parts with a damp cloth. Replace faucet seat cup periodically if badly stained or to stop faucet dripping. DO NOT CLEAN THE HOT WATER FAUCET.
8 Reassemble the coffee faucet.
9. Wipe the entire outside surface of the machine with a clean damp cloth. Wipe dry.

CAUTION - CLEANING SURFACES ARE HOT!!

FILTER HOLDER

1. A filter holder is supplied with each SRU coffee brewer. Its purpose is to keep the filters in their originally formed shape to properly fit the brewer funnel.
2. It is suggested that only one cluster of filters be placed in the holder at one time for best results.
3. Not using the filter holder may permit the filters to gradually widen out towards a flat shape, especially so if humidity is present. Once a filter has lost its upright side walls, it may tend to collapse inward when placed in the brewing funnel. If this happens the hot water spray may cause one side to fall inwards, letting coffee grounds flow over the edge of filter and into the brewed coffee. Proper use of the holder should prevent this problem.

TROUBLESHOOTING

A troubleshooting guide is provided to suggest probable causes and remedies for the most likely problems encountered. If the problem remains after exhausting the troubleshooting steps, contact the Bunn-O-Matic Technical Service Department.

- Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel.
- All electronic components have 120 volt ac and low voltage dc potential on their terminals. Shorting of terminals or the application of external voltages may result in board failure.
- Intermittent operation of electronic circuit boards is unlikely. Board failure will normally be permanent. If an intermittent condition is encountered, the cause will likely be a switch contact or a loose connection at a terminal or crimp.
- Solenoid removal requires interrupting the water supply to the valve. Damage may result if solenoids are energized for more than ten minutes without a supply of water.
- The use of two wrenches is recommended whenever plumbing fittings are tightened or loosened. This will help to avoid twists and kinks in the tubing.
- Make certain that all plumbing connections are sealed and electrical connections tight and isolated.
- This brewer is heated at all times. Keep away from combustibles.

WARNING –
- Exercise extreme caution when servicing electrical equipment.
- Unplug the brewer when servicing, except when electrical tests are specified.
- Follow recommended service procedures
- Replace all protective shields or safety notices

PROBLEM	PROBABLE CAUSE	REMEDY
Brew cycle will not start	1. No water	Water lines and valves to the brewer must be open.
	2. No power or incorrect voltage to the brewer	(A1) Check the terminal block for 120 volts ac across the red and white terminals and the black and white terminal on three wire 102/208 volt or 120/240 volt models. (A2) Check the terminal block for 208 volts ac, 230 volts ac or 240 volts ac on "A Series" brewers across the red and black terminals on two wire single phase 208 volt, 230 volt and 240 volt models. (A3) Check the terminal block for 208 volts ac and 240 volts ac across the black and blue terminals, the blue and red and the black and red terminals on three wire three phase 208 volt and 240 volt models. (B) Check circuit breakers or fuses.

PROBLEM	PROBABLE CAUSE	REMEDY
Brew cycle will not start (cont)	3. Water level below pump housing. (Water level in the hot water gauge glass should be approximately half full).	Be sure water shut-off valve is open and that the in-line filters or strainers are not blocking water flow. (Do not confuse water shut-off valve with the manual fill and drain valve underneath the brewer).
	4. ON/OFF Switch	Refer to *Service* - ON/OFF Switch for testing. See page 22
	5. Start Switch	Refer to *Service* - Start Switches for testing procedures. See page 27
	6. Timer	Refer to *Service* - Timer for testing procedures. See page 30 or 32
	7. Pump	Refer to *Service* - Pump for testing procedures. See page 23
	8. Solenoid Valve	Refer to *Service* - Solenoid Valve for testing procedures. See page 25
	9. Strainer	(A) Direction of flow arrow must be pointing towards brewer. (B) Remove the strainer and check for obstructions. Clear or replace.
Tank not filling	1. ON/OFF Switch (This switch must be in the "ON" position for the refill circuit to operate.	Refer to *Service* - ON/OFF Switch for testing procedures. See page 22
	2. No water	Be sure water shut-off is open and that in-line filters or strainers are not blocking water flow. (Do not confuse water shut-off valve with the manual fill and drain valve underneath brewer).
	3. Solenoid Valve	Refer to *Service* - Solenoid Valve for testing procedures. See page 25
	4. Probe	Refer to *Service* - Probe for testing procedures. See page 20
	5. Liquid Level Board	Refer to *Service* - Liquid Level Board for testing procedures. See page 20

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Water running out of the overflow	1. Brewer not level	Brewer must be level and installed on a sturdy structure.
	2. Solenoid Valve	Refer to *Service* - Solenoid Valve for testing procedures. See page 25
	3. Liquid Level Board	Refer to *Service* -Liquid Level Board for testing procedures. See page 20
	4. Probe	Refer to *Service* - Probe for testing procedures. See page 20
Water is not hot	1. Limit Thermostat **CAUTION -** Do not eliminate or bypass limit thermostat. Use only Bunn-O-Matic replacement part #29329.1000.	Refer to *Service* - Limit Thermostat for testing procedures. See page 19
	2. Control Thermostat	Refer to *Service* - Control Thermostat for testing procedures. See page 17
	3. Tank Heater(s)	Refer to *Service* - Tank Heater for testing procedures. See page 28
	4. Contactor	Refer to *Service* - Contactor for testing procedures. See page 15

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Circuit breaker keeps tripping	1. Circuit Breaker	Refer to *Service* - Circuit Breaker for testing procedures. See page 14
	2. ON/OFF Switch	Refer to *Service* - ON/OFF Switch for testing procedures. See page 22
	3. Brew Circuit	Refer to *Service* - Pump Assembly for testing procedures. See page 23
	4. Refill Circuit	Refer to *Service* - Liquid Level Board for testing procedures. See page 20
Water keeps running from swing spout	1. Timer	Refer to *Service* - Timer for testing procedures. See page 30 or 32
	2. Start Switch	Refer to *Service* - Start Switch for testing procedures. See page 28
Inconsistent coffee yield	1. Timer	Refer to *Service* - Timer for testing procedures. See page 30 or 32
	2. Solenoid Valve	Refer to *Service* - Solenoid Valve for testing procedures. See page 25
	3. Lime build-up in swing spout and pump tubing.	Remove swing spout and insert deliming rod down into pump tubing as far as possible.
Funnel overflows	1. Filters	Use Bunn® filters made for the SRU brewer.
	2. Hole in bottom of funnel obstructed.	Remove obstruction.

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Funnel overflows (cont.)	3. Pump - Flow Rate	Check pump flow rate with a watch. Pump flow rate should be approximately 24 ounces in 15 seconds. Be sure pump assembly is free of any obstructions.
	4. Soft Water	When using a water softener, a coarse grind of coffee may be preferred. If required, a bypass system is available as an optional feature.
Coffee reservoir overflows	1. Coffee reservoir not completely empty before a brew cycle was started.	Be sure coffee reservoir is empty before brew cycle is started.
	2. Timer	Refer to *Service* -Timer for testing procedures. See page 30 or 32
	3. Pump - Flow Rate	Check pump flow rate with a watch. Pump flow rate should be approximately 24 ounces in 15 seconds. Be sure pump assembly is free of any obstructions.
Brewer is making unusal noises	1. Solenoid Valve	The nut on the solenoid must be tight or it will vibrate during operation.
	2. Plumbing lines	Plumbing lines should not be resting on the counter top.
	3. Water supply	(A) The brewer must be connected to a cold water line. (B) Water pressure to the brewer must not exceed 90 psi (621 kPa). Install a regulator if necessary to lower the pressure to approximately 50 psi (345 kPa).
	4. Tank Heater(s)	Remove and clean lime off the tank heater. See page 28

SERVICE

This section provides procedures for testing and replacing various major components used in this brewer should service become necessary. Refer to *Troubleshooting* for assistance in determining the cause of any problem.

WARNING - Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel. The brewer should be unplugged when servicing, except when electrical tests are required and the test procedure specifically states to plug in the brewer.

COMPONENT ACCESS

WARNING - Disconnect the brewer from the power source before the removal of any panel or the replacement of any component.

The control thermostat, limit thermostat, pump, solenoid valve, liquid level probe and tank heater are accessible by removal of the swing spout, front cupola cover, rear cupola cover and the cupola.

Disconnect the swing spout nut from the swing spout base fitting. Remove swing spout.

Remove the four #8-32 screws, two ~~on each side~~, securing the side covers to the cupola.

Slip cupola off of the component bracket.

The on/off switch, selector switch, start switch, timer, contactor and liquid level control board are accessible by removal of the front lower panel.

Remove the four #8-32 screws securing the front access panel to the base.

The circuit breaker, fuse and fuse holder are accessible by removal of the rear utility cover.

Remove the six #8-32 screws securing the rear utility cover to the housing.

Contents

Circuit Breaker 14
Contactor 15
Control Thermostat 17
Fuse and Fuse Holder 18
Limit Thermostat 19
Liquid Level Board and Level Probe 20
ON/OFF Switch 22
Pump 23
Selector Switch (Half Batch) 24
Solenoid 25
Start Switch (Brew) 26
Tank Heater 28
Thermal Cut-off 29
Timer (Early Models) 30
Digital Brew Timer (Late Models) 32
Wiring Diagrams ..... 34 thru 36

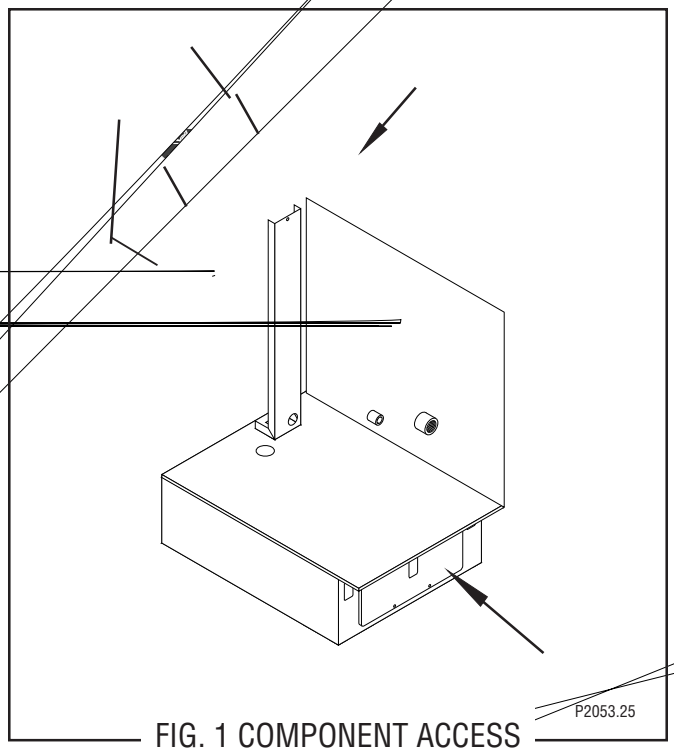


FIG. 1 COMPONENT ACCESS

CIRCUIT BREAKER (120/208V and 120/240V Three Wire Models)

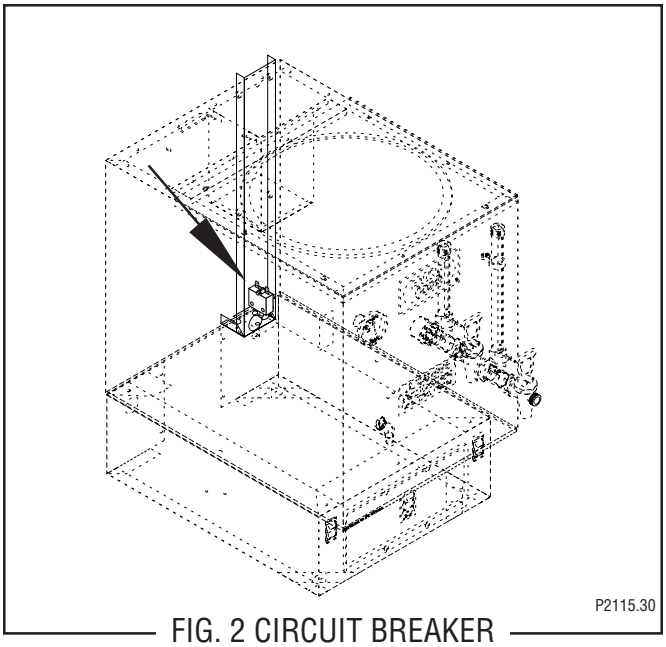


FIG. 2 CIRCUIT BREAKER

Location:

The circuit breaker is located on the rear of the urn, behind the rear utility cover.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect the black wire from the main harness from the circuit breaker and the white wire on the pump assembly. With a voltmeter, check the voltage across the black wire and the white wire. Connect the brewer to the power source. The indication must be 120 volts for 120/208 and 120/240 volt, 3-wire with ground, single phase.
3. Disconnect the brewer from the power source.

If voltage is present as described, reconnect the white wire to the pump assembly and proceed to #4. If voltage is not present as described, refer to the Wiring Diagrams and check the brewer wiring harness.

4. With the black wire removed, remove the other black wire from the circuit breaker.
5. Check for continuity across the terminals on the circuit breaker.

If continuity is not present as described, press the reset button and repeat step 5, if continuity is not present as described, replace the circuit breaker.

Removal and Replacement:

1. Remove wires from the circuit breaker.
2. Remove the nut securing the circuit breaker to the component bracket.
3. Remove circuit breaker and discard.
4. Install new circuit breaker on component bracket and secure with nut.
5. Refer to Fig. 3 and reconnect the wires.

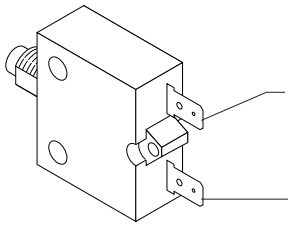


FIG. 3 CIRCUIT BREAKER TERMINALS

Location:

The contactor is located inside the front lower access panel, left of center on the component bracket.

Test Procedures:

1. Disconnect the brewer from the power source.

2A. 120/208V and 120/240V THREE WIRE MODELS

Disconnect the black wire from the contactor coil to the limit thermostat and black wire from the white wire on the main harness.

2B. 208V or 240V TWO WIRE MODELS, 208V and 240V THREE WIRE MODELS

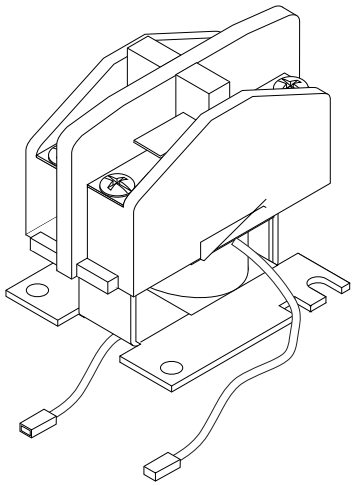
Disconnect the black wire from the contactor coil to the limit thermostat and black wire from the red wire on the main harness.

2C. 230V MODELS

Disconnect the red wire from contactor coil to the limit thermostat and the black wire from the main harness.

3. Connect the brewer to the power source.
4. Check the voltage across the limit wire and the wire from the the main harness.The indication must be:
   a) 120 volts for 120/208 and 120/240 volt, 3-wire with ground, single phase;
   b) 230 volts for 230 volt, 2-wire with ground, single phase;
   c) 208 volts for 208 volt, 2-wire with ground, single phase;
   d) 240 volts for 240 volt, 2-wire with ground, single phase.
5. Disconnect the brewer from the power source.

If voltage is present as describ 84 20.0006 -1.5 2 2 2l01 8



SERVICE (cont.)

FUSE AND FUSE HOLDER (208V, 240V and 230V Two Wire Models)

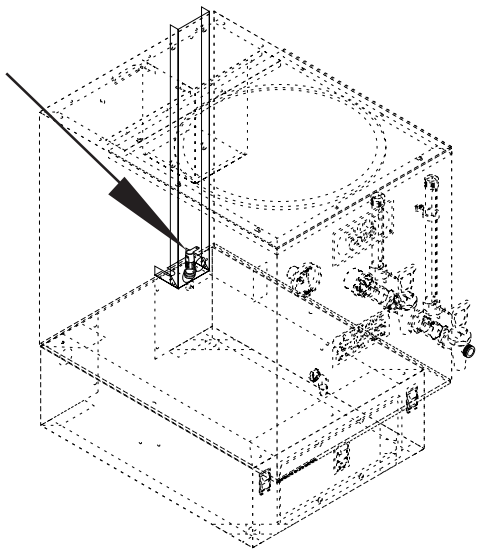


FIG.8 FUSE AND FUSE HOLDER

Location:

The fuse and fuse holder are located on the rear of the urn behind the rear utility cover.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Remove the cap and fuse from the fuse holder.
3. Remove fuse from the cap.
4. Check for continuity through the fuse.

If continuity is present as described, reinstall the fuse, the fuse is operating properly.
If continuity is not present as described replace the fuse.

Removal and Replacement:

Fuse:

1. Remove the cap from the fuse holder.
2. Remove fuse from the fuse holder, inspect, if blown discard.
3. Install new 5 amp fuse in the fuse holder.
4. Reinstall fuse holder cap.

Fuse Holder:

1. Disconnect the wires from the rear of the fuse holder.
2. Remove the nut securing the fuse holder to the component bracket.
3. Push fuse holder through the hole in the component bracket.
4. Install new fuse holder and fuse through the hole in the component bracket and secure with nut.
5. Refer to Fig. 9 and reconnect the wires.

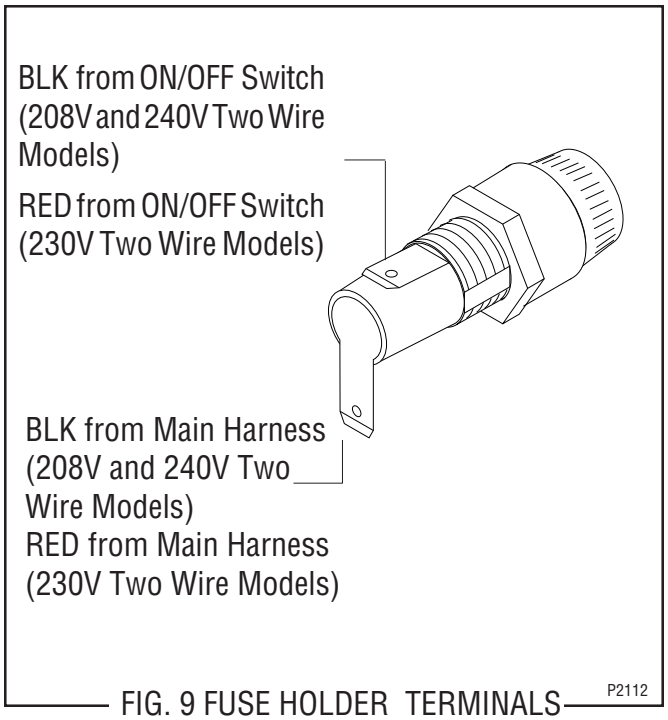
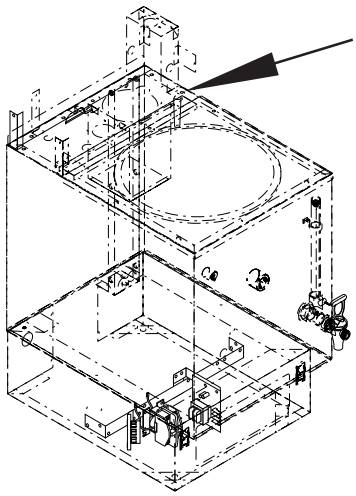

BLK from ON/OFF Switch (208V and 240V Two Wire Models)
RED from ON/OFF Switch (230V Two Wire Models)
BLK from Main Harness (208V and 240V Two Wire Models)
RED from Main Harness (230V Two Wire Models)
P2112

FIG. 9 FUSE HOLDER TERMINALS

limit the
and remove the
the new limit thermostat
.
g. 11 and reconnect the wires.

LIQUID LEVEL BOARD AND LEVEL PROBE



P2208.40

FIG.12 LIQUID LEVEL BOARD AND LEVEL PROBE

Location:

The liquid level board is located behind the lower front access panel, to the right of center on the component bracket. The level probe is located on the right front of the upper component bracket.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect the blue wire (T1) and the pink wire (T4).
3. Check the voltage across terminals (T2) and (T3) with the ON/OFF switch in the "ON" position. The indication must be:
   a) 120 volts for 120/208 and 120/240 volt, 3-wire with ground, single phase;
   b) 230 volts for 230 volt, 2-wire with ground, single phase;
   c) 208 volts for 208 volt, 2-wire with ground, single phase;
   d) 240 volts for 240 volt, 2-wire with ground, single phase.
4. Disconnect the brewer from the power source.

If voltage is present as described, proceed to #5.
If voltage is not present as described, refer to wiring diagrams and check the brewer wiring harness.

5. Reconnect the blue wire to T1 on the liquid level board.
6. Carefully connect a piece of insulated jumper wire to T4. Keep the other end of this wire away from any metal surface of the brewer.
7. Touching the free end of the jumper to the brewer's frame simulates a "FULL" condition, preventing jumper from touching the brewer's frame simulates "NEED WATER" condition. Connect the brewer to the power source, simulate the conditions in the chart below while measuring the voltage between T1 and T3 On the liquid level board. Repeat these several times. Keep in mind there is an approximate five second delay for output to stabilize.

Model	Voltage - Jumper Not Touching Frame	Voltage - Jumper Touching Frame
120/208V & 120/240V - 3-wire w/ground single phase	120V	0
230V - 2-wire w/ground single phase	230V	0
208V or 240V - 2-wire w/ground single phase	208V or 240V	0 0

8. Disconnect the brewer from the power source and remove the jumper wire from T4.

If voltage is present as described, liquid level board is operating properly, proceed to #9.
If voltage is not present as described, replace the liquid level board.

9. Reconnect the pink wire to T4.
10. Remove the two #8-32 screws securing the level probe to the component bracket.
11. Gently pull the probe out of the component bracket and inspect for corrosion. Replace if necessary.
12 Place the probe so that neither end is in contact with any metal surface of the brewer.
13. Connect the brewer to the power source. Check the voltage across T1 and T3, refer to chart below. Keep in mind there is an approximate delay of five seconds for output to stabilize.

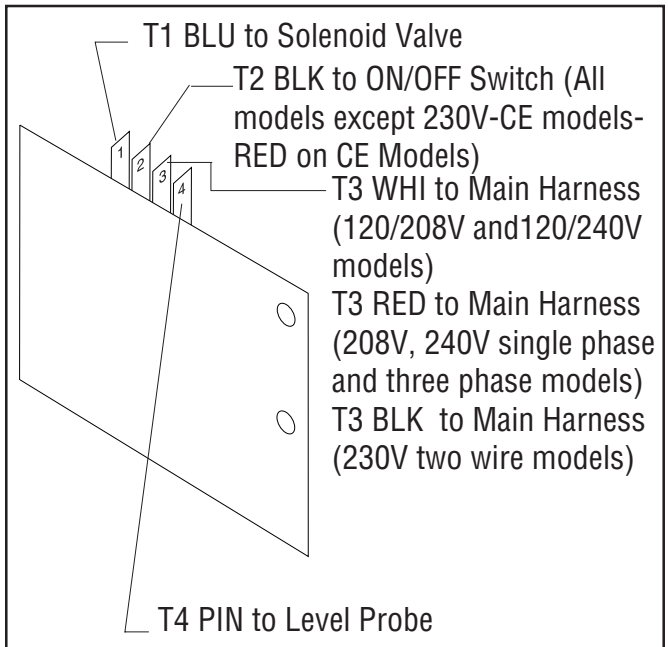
Model	Voltage - Jumper Not Touching Frame	Voltage - Jumper Touching Frame
120/208V & 120/240V - 3-wire w/ground single phase	120V	0
230V - 2-wire w/ground single phase	230V	0
208V or 240V - 2-wire w/ground single phase	208V or 240V	0 0

14. Disconnect the brewer from the power source.

If voltage is present as described, reinstall the level probe, the liquid level board and level probe are operating properly.
If voltage is not present as described, check the pink wire on the level probe from liquid level board terminal.

Removal and Replacement:

1. Remove all wires from the liquid level board.
2. Remove the #10-32 screw and flat washer securing the protective shield to the component bracket.
3. Remove the #10-32 screw and internal tooth lockwasher securing the liquid level board to the component bracket.
4. Remove liquid level board and discard.
5. Install new liquid level board on component bracket and secure with a #10-32 screw and internal tooth lockwasher.
6. Install protective shield and secure with #10-32 screw and flat washer.
7. Refer to Fig. 13 and reconnect the wires.


T1 BLU to Solenoid Valve
T2 BLK to ON/OFF Switch (All models except 230V-CE models-RED on CE Models)
T3 WHI to Main Harness (120/208V and120/240V models)
T3 RED to Main Harness (208V, 240V single phase and three phase models)
T3 BLK to Main Harness (230V two wire models)
T4 PIN to Level Probe
1
2
3
4
P1733
FIG.13 LIQUID LEVEL BOARD TERMINALS

SERVICE (cont.)

ON/OFF SWITCH

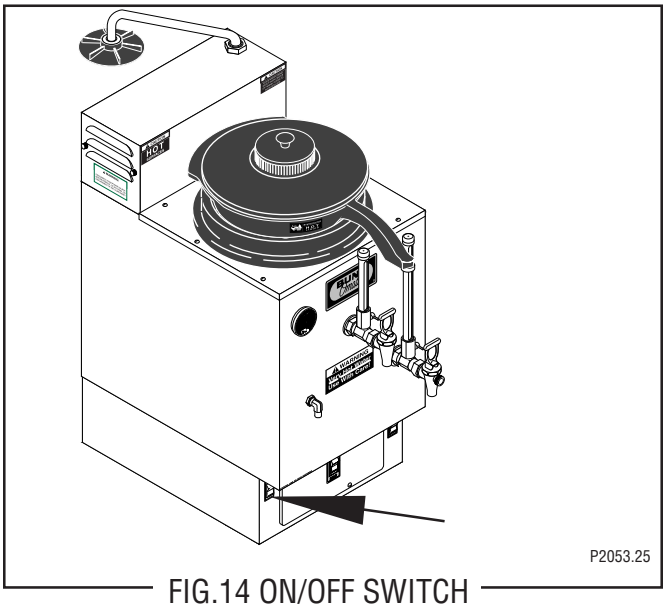


FIG.14 ON/OFF SWITCH

Location:

The ON/OFF switch is located on the left side of the lower front panel.

Test Procedures:

1. Disconnect the brewer from the power source.
2. a)120/208V, 120/240V, 208V and 240V Models Remove the black wire on the ON/OFF switch from the fuse holder or circuit breaker and the red wire on the switch indicator light.
   b) 230V - CE Models - Remove the red wire on the ON/OFF switch from the fuse holder and the black wire on the switch indicator light.
3. Connect the brewer to the power source. With a voltmeter, check the voltage across the removed wire. The indication must be:
   a) 120 volts ac for 120/208 volt and 120/240 volt models.
   b) 208 volts ac for 2-wire 208 volt models.
   c) 240 volts ac for 2-wire 240 volt models.
   d) 230 volts ac for 2-wire 230 volt models.
4. Disconnect the brewer from the power source.

If voltage is present as described, reconnect the wires and proceed to #5

If voltage is not present as described, refer to the wiring diagrams and check the brewer wiring harness.

5. Disconnect the wires on the ON/OFF switch.
6. a) 120/208V, 120/240V, 208V and 240V Models - Check for continuity across the terminals on the rear of the switch with the switch in the "ON" (upper) position. Continuity must not be present when the switch is in the "OFF" (lower) position.
   b) 230V - CE Models - Check for continuity across the center terminal (2) and the lower terminal (1) when the switch is in the "ON" (upper) position. Continuity must not present when the switch is in "OFF" (lower) position.

If continuity is present as described, the switch is operating properly.

If continuity is not present as described, replace the switch.

Removal and Replacement:

1. Remove the wires from the switch terminals.
2. Compress the clips on the back side of the switch mounting bracket and gently push them through the opening.
3. Push the new switch into the opening and spread the clips to hold switch in the mounting bracket.

NOTE: ON 230V - CE models terminal (3) must be on the top.

4. Refer to Fig. 15 and reconnect the wires.

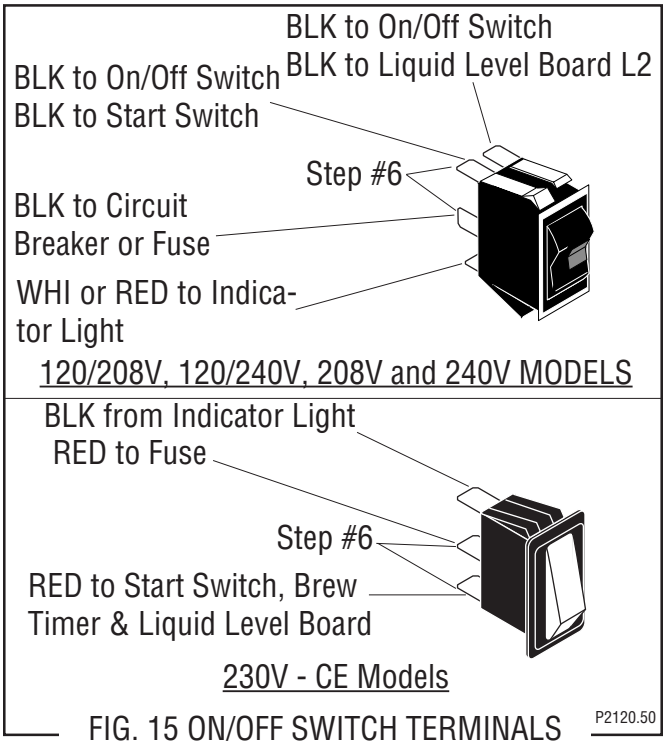

BLK to On/Off Switch
BLK to Liquid Level Board L2
BLK to On/Off Switch
BLK to Start Switch
Step #6
BLK to Circuit Breaker or Fuse
WHI or RED to Indicator Light
120/208V, 120/240V, 208V and 240V MODELS
BLK from Indicator Light
RED to Fuse
Step #6
RED to Start Switch, Brew Timer & Liquid Level Board
230V - CE Models
P2120.50

FIG. 15 ON/OFF SWITCH TERMINALS

SERVICE (cont.)

PUMP ASSEMBLY

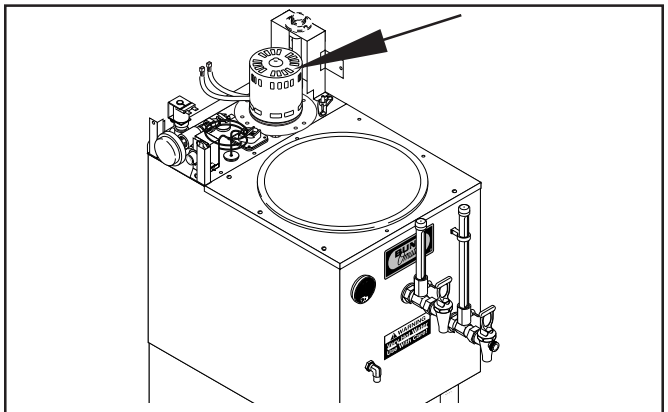


FIG.16 PUMP ASSEMBLY P2113.40

Location:

The pump is located on the right of the component bracket.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect the black wire from the black lead on the pump and the white wire from the black lead on the pump.
3. With a voltmeter, check the voltage across the black wire and the white wire. Connect the brewer to the power source. The indication must be:
   a) 120 volts ac for 3-wire 120/208 volt and 120/240 volt models.
   b) 208 volts ac for 2-wire 208 volt models.
   c) 240 volts ac for 2-wire 240 volt models.
   d) 230 volts ac for 2-wire 230 volt models.
4. Disconnect the brewer from the power source.

If voltage is present as described, reconnect the wires to the pump. Install swing spout and position over the reservoir. Place the ON/OFF in the "ON" (upper) position and push the start switch and release. If pump does not run, replace the pump.

If voltage is not present as described, refer to the wiring diagrams and check the brewer wiring harness.

Removal and Replacement (Refer to Fig. 17):

1. Disconnect the wires from the pump assembly.
2. Loosen the #8-32 screw (2) securing the clamp (3) on the fill tube (1) and slide the clamp (3) up the fill tube (1).
3. Disengage the fill tube (1) from the pump assembly (4).
4. Remove the four #8-32 screws (6) securing the pump assembly (4) to the component bracket (7).
5. Remove pump assembly (4).
6. Remove pump gasket (5) and inspect, replace if necessary.
7. Position gasket (5) on component bracket (7).
8. Install new pump assembly (4) on component bracket (7) and secure with four #8-32 screws (6).
9. Install fill tube (1) on pump assembly (4).
10. Slide clamp (3) down into position on the fill tube (1) and tighten screw (2).
11. Refer to Fig. 17 and reconnect the wires.

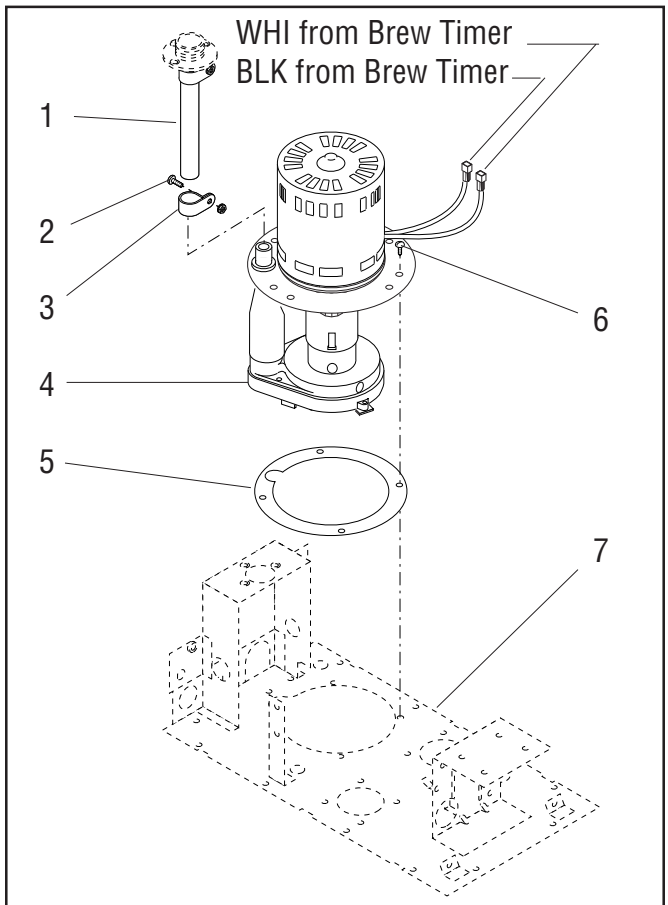
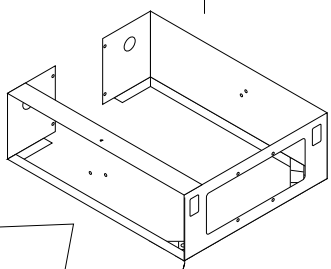


FIG.17 PUMP INSTALLATION P1737

SERVICE (cont.)
SELECTOR SWITCH (HALF BATCH OPTION)



P2053.25

G. 18 ELECTOR SWITCH (HALF BA

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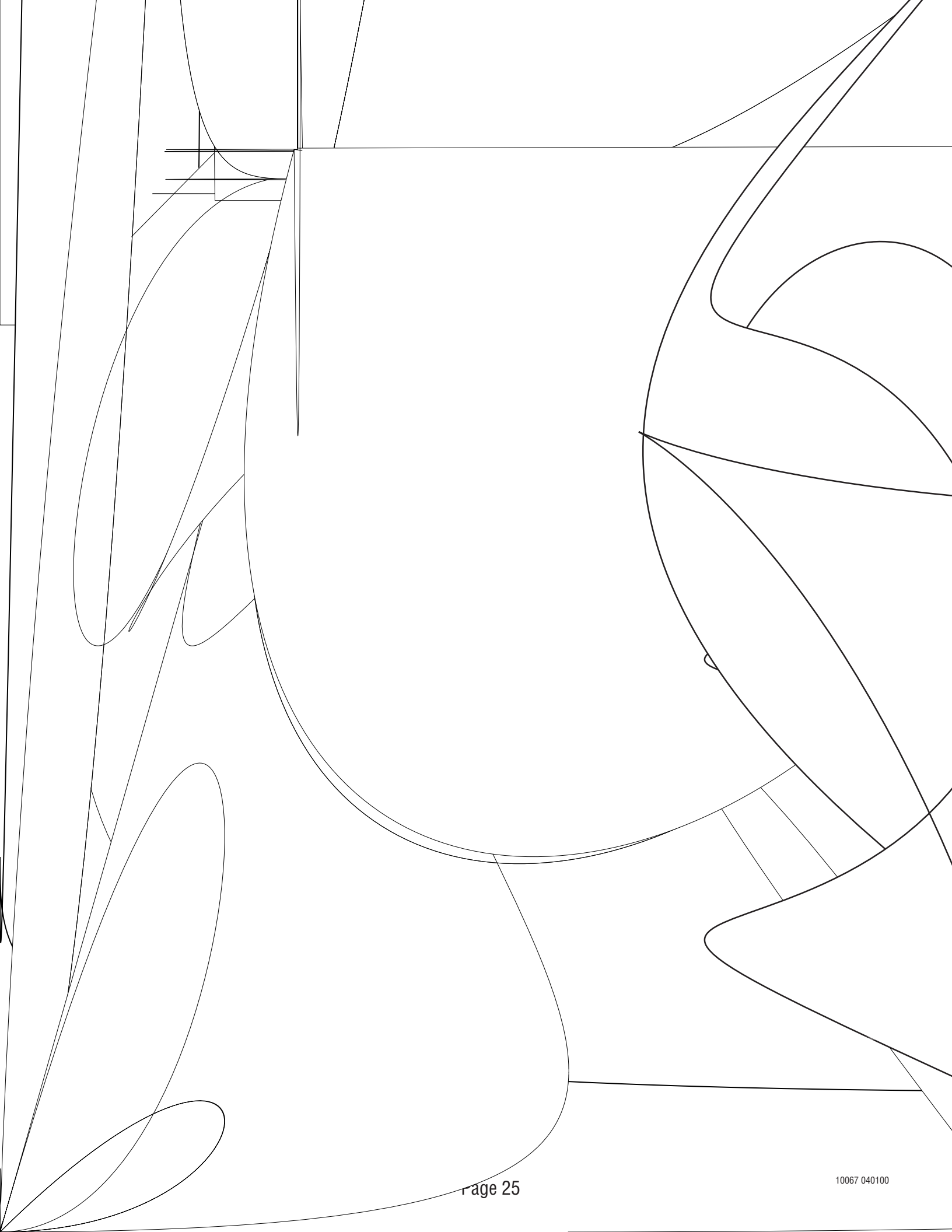
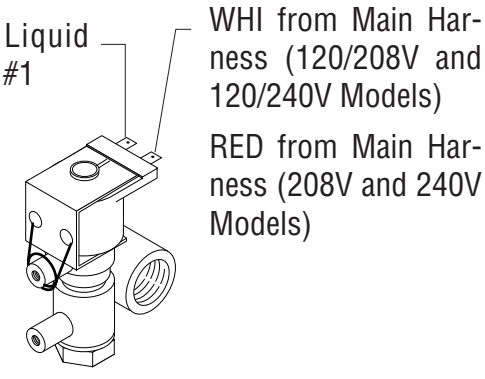
If continuity is not
switch.

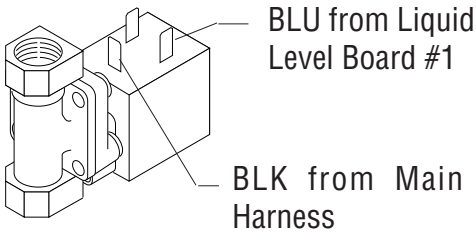


SERVICE (cont.)

SOLENOID

10. Install water inlet tube to connector on the solenoid.
11. Turn on the water supply to the brewer.
12. Refer to Fig. 21 and reconnect the wires.

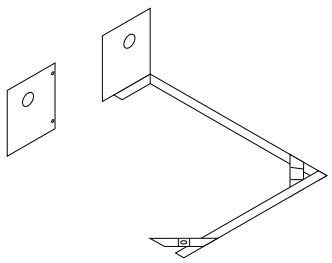

BLU from Liquid Level Board #1
WHI from Main Harness (120/208V and 120/240V Models)
RED from Main Harness (208V and 240V Models)



230V - CE MODELS

FIG. 21 SOLENOID TERMINALS P1741.30

START SWITCH (BREW)



P2053.25

FIG. 22 START SWITCH (BREW)

Location:

The brew start switch is located on the lower right side of the front access panel at the base of the urn on all models except 230 volt CE. On 230 volt CE models, the start switch is located on the lower right of the front access panel, beneath the selector switch.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Remove the wires from the start switch terminals.
3. Check for continuity across the switch terminals when the switch is held in the lower position. Continuity must not be present when the switch is in the upper position.

If continuity is present as described, reconnect the wires the switch is operating properly.

If continuity is not present as described, replace the switch.

Removal and Replacement:

1. Remove the wires from the switch terminals.
2. Compress the clips on the back side of the switch mounting panel and gently push them through the opening.
3. Push the new switch into the opening and spread the clips to hold switch in the mounting panel.
4. Refer to Fig. 23 and reconnect the wires.

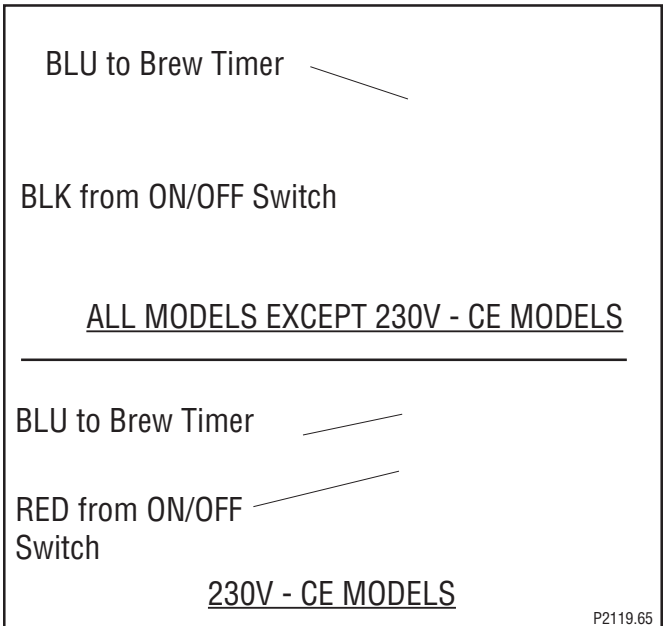
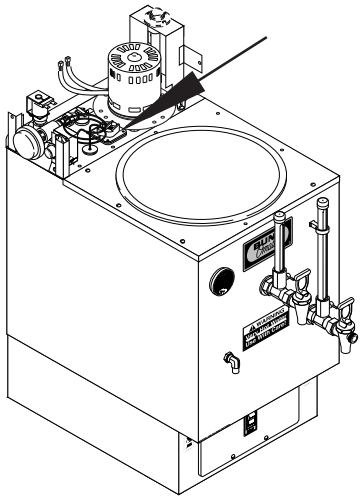

BLU to Brew Timer
BLK from ON/OFF Switch
ALL MODELS EXCEPT 230V - CE MODELS
BLU to Brew Timer
RED from ON/OFF Switch
230V - CE MODELS
P2119.65

FIG.23 BREW START SWITCH TERMINALS

SERVICE (cont.)

TANK HEATERS



P2113.40

FIG. 24 TANK HEATER

Location:

The tank heater is located on the front center of the upper component bracket.

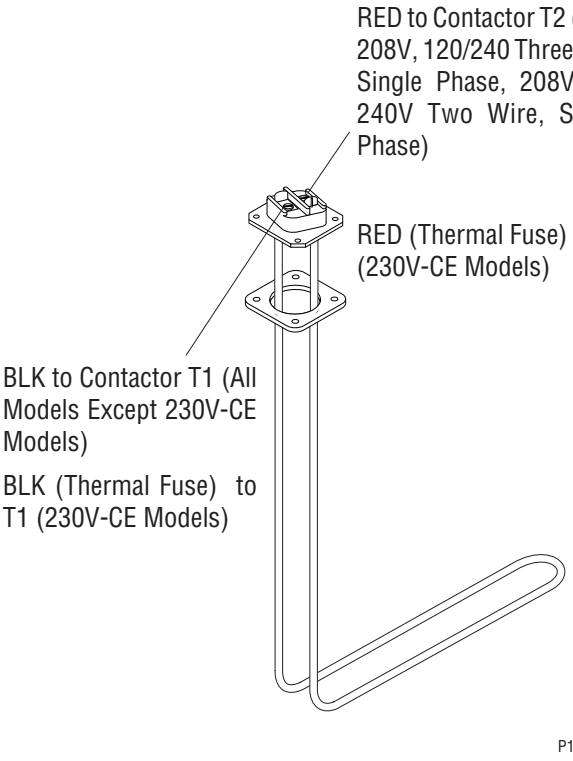
Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect the wires from the tank heater.
3. Check for continuity across the tank heater terminals.

If continuity is present as described, proceed to #4. If continuity is not present as described, replace the tank heater.

Removal and Replacement:

1. Remove the wires or thermal fuses from the tank heater.
2. Remove the four #8-32 screws securing the tank heater to the component bracket.
3. Remove tank heater and gasket.
4. Position new tank heater and gasket on the component bracket and secure with four #8-32 screws.
5. Refer to Fig. 25 and reconnect the wires.


RED to Contactor T2 (120/208V, 120/240 Three Wire Single Phase, 208V and 240V Two Wire, Single Phase)
RED (Thermal Fuse) to T2 (230V-CE Models)
BLK to Contactor T1 (All Models Except 230V-CE Models)
BLK (Thermal Fuse) to T1 (230V-CE Models)

P1746

FIG. 25 TANK HEATER TERMINALS

SERVICE (cont.)

THERMAL FUSES (230V-CE MODELS ONLY)

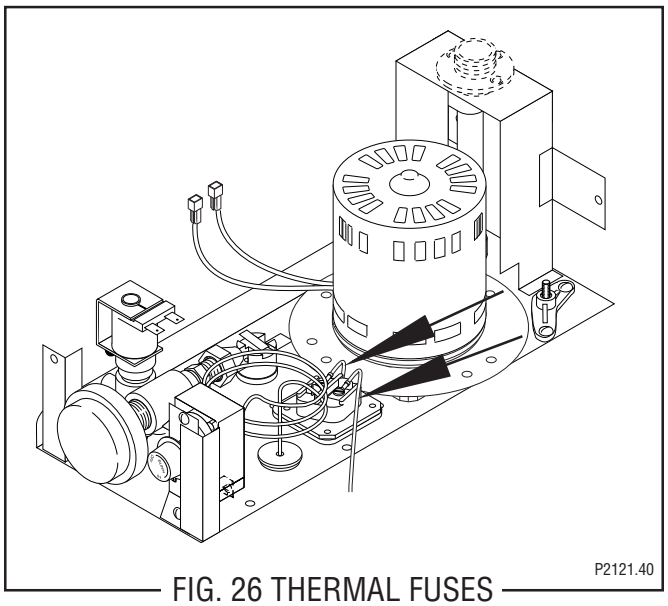


FIG. 26 THERMAL FUSES

Location:

The thermal fuses are mounted on the tank heater terminals.

Test Procedures:

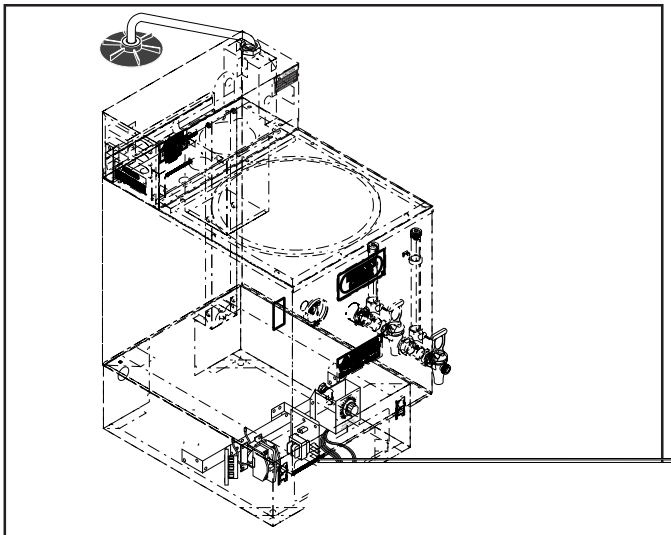
1. Disconnect the brewer from the power source.
2. Disconnect the thermal fuse from the tank heater terminal and the contactor lead.
3. Check for continuity across the terminals on the ends of the thermal fuse.

If continuity is present as described, the thermal fuse is operating properly.
If continuity is not present as described, replace the thermal fuse.

Removal and Replacement:

1. Disconnect the thermal fuse from the tank heater terminal and the contactor lead and discard.
2. Connect the new thermal fuse to the tank heater terminal and the contactor terminal.

TIMER (Early Models)



Fl

Location:

The timer is lo
on the right side

Test Procedure
1. Disconnec
2. Disconne
the brew
dial fully
3. With a
P2 and
femal
wher
pos

SERVICE (cont.)

TIMER (Early Models)(cont.)

Removal and Replacement:

1. Separate all connectors between the brewer wiring harness and the timer.
2. Disconnect the timer leads from the pump leads.
3. Remove the two #8-32 screws securing the brew timer to the component bracket and remove timer.
4. Install new timer circuit board as described in *Late Model Timer* section on the following pages.
5. Refer to Fig. 30 to reconnect the wires.
6. Install the Timer Setting Decal, provided with the timer replacement kit, on the back of the front access panel.
7. Adjust the timer as required. Refer to *Late Model Timer* section on the following pages.

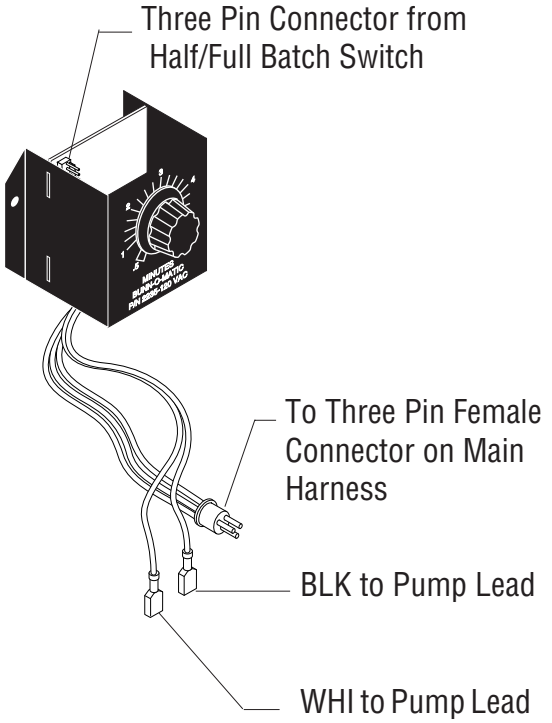
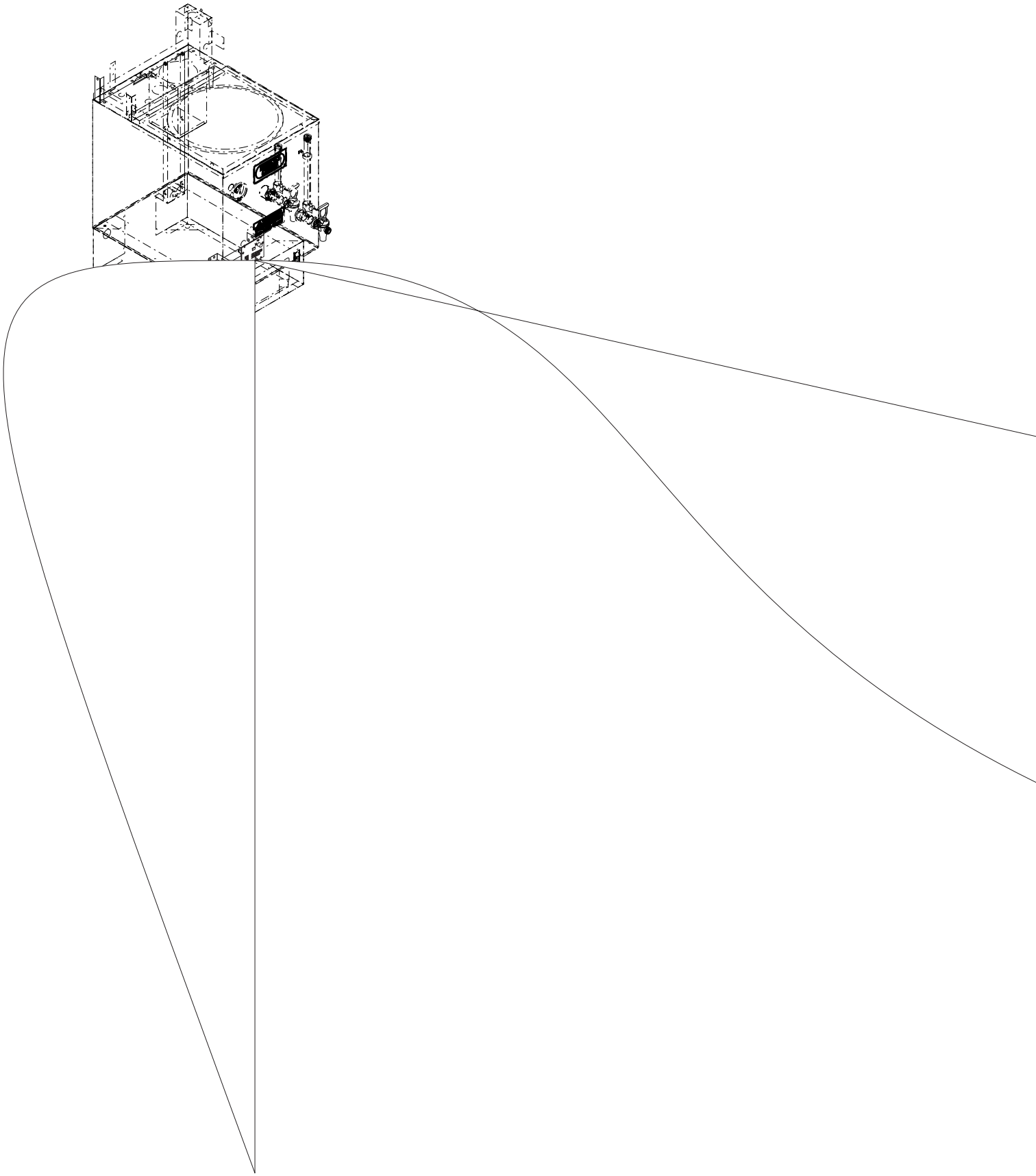

Three Pin Connector from Half/Full Batch Switch
To Three Pin Female Connector on Main Harness
BLK to Pump Lead
WHI to Pump Lead
P1751

FIG. 28 TIMER TERMINALS

SERVICE (cont.)

DIGITAL BREW TIMER (Late Models)



SERVICE (cont.)

DIGITAL BREW TIMER (Late Models)

1. **Modifying brew volumes.** To modify a brew volume, first check that the SET/LOCK switch is in the "SET" position on the circuit board.

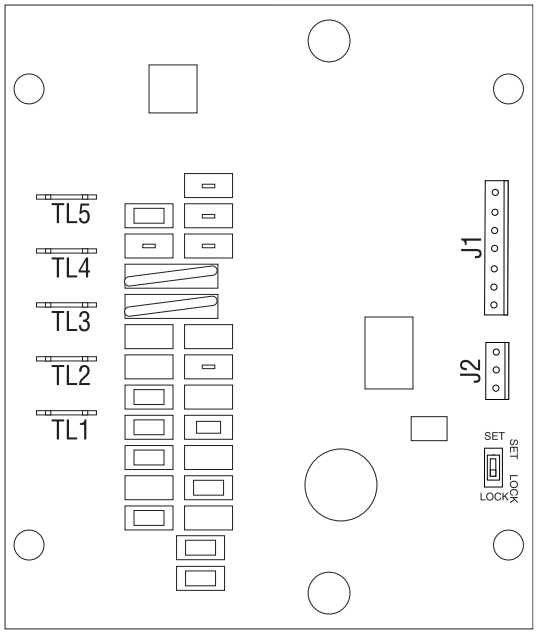
To increase a brew volume, place the ON/OFF switch in the "ON" position, press and hold the START switch until you see three breaks in the water stream from the swing arm. Release the switch and press it again one or more times. (Failure to release the switch within two seconds after the third break in the water stream causes the volume setting to be aborted and previous volume setting will remain in memory.) Each time the switch is pressed, two seconds are added to the brew time period. Allow the brew cycle to finish in order to verify that the desired volume has been achieved.

To decrease a brew volume, place the ON/OFF switch in the "ON" position, press and release the START switch once for every two-second interval to be removed from the total brew time period; then immediately press and hold down the START switch until you see three breaks in the water stream from the swing arm. Release the switch. (Failure to release the switch within two seconds after the third break in the water stream causes the volume setting to be aborted and previous volume setting will remain in memory). Allow the brew cycle to finish in order to verify that the desired volume has been achieved.

2. **Setting brew volumes.** To set a brew volume, first check that the SET/LOCK switch is in the "SET" position on the circuit board. Place the ON/OFF switch in the "ON" position, press and hold the START switch until you see three breaks in the water stream from the swing arm and then release the switch. (Failure to release the switch within two seconds after the third break in the water stream causes the volume setting to be aborted and previous volume setting will remain in memory.)
View the level of the liquid being dispensed. When the desired level is reached, turn the ON/OFF switch to "OFF".

NOTE: The brewer remembers this volume and will continue to brew batches of this size until the volume setting procedure is repeated.
NOTE: When brewing coffee, volume will decrease due to absorption by the coffee grounds.
NOTE: Half-Batch and full batch settings must each be set separately.

3. **Setting programming disable feature.** If it becomes necessary to prevent anyone from changing brew time once programmed, you can set the SET/LOCK switch to the "LOCK" position. This will prevent any further programming until switch is once again put into the "SET" position.



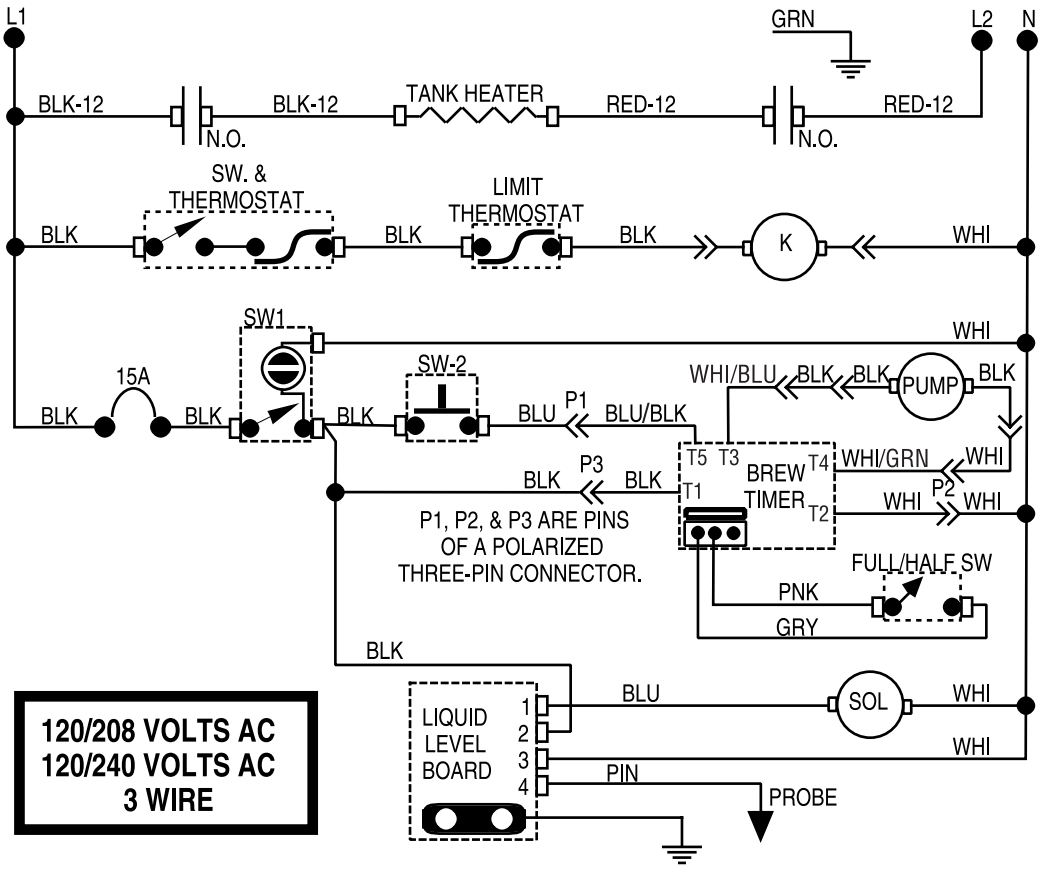
BLU/BLK wire from TL5 to P1
WHI/GRN wire from TL4 to (BLK) Pump
WHI/BLU wire from TL3 to (BLK) Pump
WHI wire from TL2 to P2
BLK wire from TL1 to P3

J2 - Three Pin connector from Half/Full Batch Switch

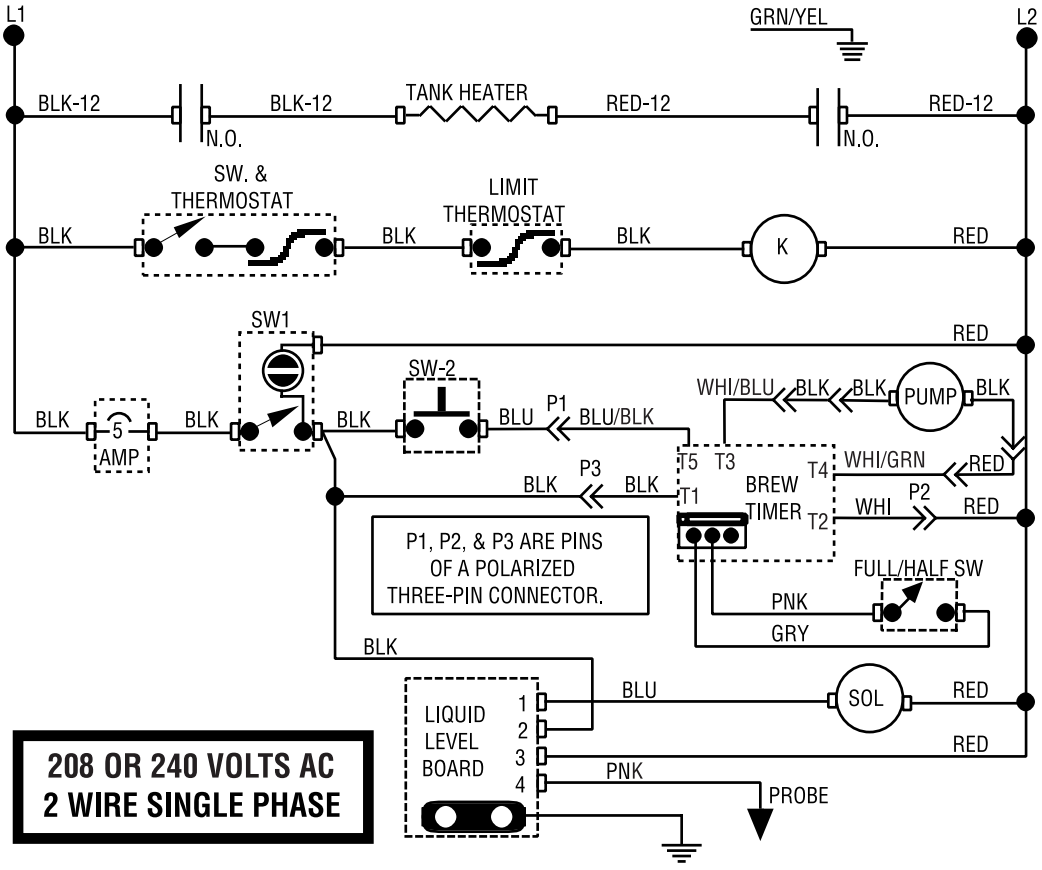
P2037

FIG. 30 DIGITAL TIMER TERMINALS

SCHEMATIC WIRING DIAGRAM SRU



SCHEMATIC WIRING DIAGRAM SRUA



SCHEMATIC WIRING DIAGRAM SRUA - CE